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ABSTRACT

This research study was designed to investigate whether tutors and tutees derive any benefits from tutoring. Two classes of fifth graders and two classes of third graders were the subjects in this experiment. One class each of fifth graders and third graders was randomly divided into tutor and study-alone categories. The other classes served as control groups. The fourteen students in the tutor and study-alone groups were paired according to teacher judgment of their ranking. The study was conducted over a twelve-week period on a three-day-per-week basis, with thirty minutes per day set aside for the tutor-tutee and study-alone sessions. Pretests and posttests were given for reading attitude and reading achievement. Results for achievement in the fifth and third grades showed no apparent differences for the tutor group when compared to the study-alone and control groups. However, the achievement mean score for low-achieving third-grade tutees decreased, while the achievement mean score for high-achieving tutees increased. Attitude increased for low-achieving fifth-grade tutors and decreased for high-achieving fifth-grade tutors and third-grade tutees. (MKM)

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Cross-Age Tutoring: A Study of Achievement and Attitude at Grades Three and Five

by

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Introduction

Tutoring, one of the oldest forms of teaching, is currently being revived as an adjunct to contemporary padagogical methods. The use of the tutoring method has a number of supporters and variations on the tutoring theme are numerous. Unfortunately, however, the lack of experimental research on this topic and the relative abundance of opinion that tutoring methods are beneficial for all concerned, have led a great many teachers and administrators to utilizing this method without serious consideration of the effects of such a method. One aspect of tutoring which needs further study is the effect of tutoring on attitude and achievement.

Statement of the Problem

The question then, is this: do tutors and tutees derive any benefits from tutoring? More specifically, what is the nature of any benefits derived? To investigate this problem, the following study was devised and carried out.

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Review of the Literature

Research related to tutoring in reading falls generally into three categories: 1) short descriptive papers on "how to"; 2) experimental studies using adult tutors with elementary school children; and 3) experimental studies using student tutors in cross-age situations. Unfortunately, the first of these categories comprises most of the available literature while the third category has received relatively little attention.

The descriptive papers focus heavily on the potential of tutoring as an avenue for developing a child's attitude toward reading and his/her self-image. Marsden (1971), Lippitt (1969), and Berhmann (1973) describe various benefits from tutoring such as increased motivation, greater self-esteem, and direction for previously undirected teen-agers. Gartner, Kohler, and Riessman (1971) described a number of programs aimed at tutor involvement to improve feelings of self-worth. Stauffer (1967) suggested the creation of "Tutorial Clubs" as an extra-curricular activity for interested--not only "able"-- students.

In these descriptive studies, gains for both tutors and tutees were reported. Ebersole's (1971) experience at Soto Street School in Los Angeles emphasized gains made by the tutees under cross-age and peer tutoring conditions, while Thiagarajan (1973) reports greater gains in achievement for tutors than for tutees. Klausmeier, Frayer, and Quilling (1972) conceived of the tutee as the beneficiary of instruction and the role of the tutor as the motivator and teacher.

The second category of literature contains experimental studies of adults tutoring children. Ellson, Barber, Engel, and Kampwerth (1965) conducted a series of studies to assess the settings and conditions under which tutoring is most productive. Concluding that a positive attitude and commitment of the classroom teacher was essential to a successful tutoring program, Ellson, et. al. suggested several guidelines for planning and conducting tutoring. Elson, Harris, and Barber (1968) found the programmed tutoring, where the behavior as well as the material were tightly controlled, provided significantly better results for tutee skill development than did directed tutoring where the tutor (an inexperienced but trained adult non-professional) followed directions given by a reading specialist and used regular classroom materials. McCleary's (1971) study corroborates the Ellson, et.al. (1968) study while Schoeller and Pearson (1970) have demonstrated success with freer, non-programmed approaches utilizing trained adults in tutoring centers. Schoeller and Pearson also report changes in tutee attitude toward reading, school and self.

The third category of research in tutoring is composed of those studies which utilize students as tutors in peer and cross-age settings. Hylton and Quellmalz (1974) described the training and use of kindergarteners as tutors for other kindergarteners. One outcome of this study was the apparent improvement in achievement for tutor as well as tutee. Frager and Stern (1970) used both high and low achieving fifth and sixth graders as tutors and kindergarteners, termed remedial,

as tutees in their study. All tutees made gains over the control group regardless of the ability of the tutor. Allen and Feldman (1972) addressed their study to the low-achieving tutor. Results demonstrated that these ten low-achieving fifth graders, when tutoring, achieved significantly higher than when they studied alone.

On this basis of this literature, three conclusions can be drawn. First, tutoring, whether cross-age, peer, or adult-child appears to be an effective pedagogical technique. Secondly, tutors, especially low-achieving tutors, seem to display an increased positive attitude toward reading, toward school, and toward self. Thirdly, tutors may make gains in the skills they tutored.

Only limited objective evidence, however, is available to substantiate or refute these claims. In the writers' minds, therefore, further study seemed appropriate. To develop a better understanding of what benefits there are for elementary school students from tutoring is, then, the overriding concern. More specifically, several questions appeared unresolved:

1. Do tutors actually gain more than similar students studying the same material alone?
2. Do low-achieving tutors gain more than high-achieving tutors?
3. Do tutees gain more than similar students studying alone?
4. Do low-achieving tutees gain more than high-achieving tutees?

Procedures

Sample

In order to find some answers to these questions, an experiment was conducted using two classes of fifth graders and two classes of third graders from a single elementary school in Madison, Wisconsin. One class of fifth graders was randomly divided into tutor (Tutor/5) and study alone (Study Alone/5) categories. The other fifth grade class served as a control group (Control/5). Third grade classes were similarly divided (Tutee/3, Study Alone/3, and Control/3). The fourteen students in the tutor and study alone groups from each grade were then rank-ordered on the basis of teacher judgment of reading ability and paired according to their ranking, highest-highest, etc.

Instruction

Prior to beginning tutoring, tutors were instructed regarding their roles and responsibilities as tutors in an adaption of Klausmeier, Jetter, and Nelson (1972). Six areas of reading skill development were identified as areas for instruction: literal comprehension; comprenension of details; identification of main ideas; sequencing of events; drawing conclusions; and inferential comprehension. Lessons for each of these six areas were prepared for the tutor-tutee pairs, as well as the study alone children. Control group subjects received no instruction in these six areas.

The study was conducted over a 12-week period on a three day per week basis. Thirty minutes per day were set aside for the tutor-tutee

pairs and the two study alone groups.

Measuring Instruments

Two dependent measures were used for all subjects in the study. The Estes Reading Attitude Inventory, a 20-item Likert scale, was modified through the substitution of three items directly related to tutoring for three items drawn randomly from the scale and was used to assess attitude. Cloze procedure was used for the purpose of measuring achievement. Third graders completed a cloze passage on material written at the third grade level; fifth graders completed a passage written for fifth grade reading ability. All subjects were trained in the cloze procedure task by the experimenters using material unrelated to the content of the cloze passage used as the dependent measure. Only exact replacements were considered correct in the cloze procedure scoring. Both instruments were used on a pre-tutoring post-tutoring basis.

Analysis of the Data

Mean gain scores for attitude and for achievement were compared for each group--Tutor/5, Study Along 5 and Control 5. Each grade level was analyzed separately, first tutor/tutee vs. study alone vs. control group, and then mean gain scores for attitude and achievement for two subgroups within the tutor/tutee pairs were compared. This second aspect of the analysis consisted of examining scores for the four highest of the high-achieving tutor/tutee pairs and scores for the four lowest of the low-achieving tutor/tutee pairs on both areas

of concern, attitude and achievement.

Results

1. Results for achievement showed no apparent differences for Tutor/5 group when compared with the Study Alone/5 and Control/5 groups. Mean gain scores for Tutor/5, Study Alone/5 and Control/5 were numerically similar (Table 1). Mean gains for the high-achieving tutors did not appear different from mean gains for low-achieving tutors in achievement (Table 1).

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Insert Table 1 About Here

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2. Results for achievement for third graders showed no difference in achievement when the mean gain score for the Tutee/3 group was compared with those obtained for Study Alone/3 and Control/3 groups (Table 2). The achievement mean score for low-achieving tutees decreased while the achievement mean score for high-achieving tutees increased (Table 2).

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Insert Table 2 About Here

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3. Differences in attitude among the fifth grade groups appeared. The Tutor/5 mean gain score was +4.00 while the mean gain for the Study Alone/5 was -3.00. The Control/5 mean gain was +2.00 (Table 3). Among the tutors, the high-achieving tutors' attitude decreased, while the low-achieving tutors' attitude increased (Table 3).

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Insert Table 3 About Here

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4. For the third grade groups, the Tutee/3 mean score for attitude decreased four points while the Study Alone/3 mean score for attitude increased two points and Control/3 decreased one point (Table 4).

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Subgroups of high-achieving tutees and low-achieving tutees differed markedly in attitude: high-achieving tutees' mean attitude score increased over eight points; low-achieving tutees' mean attitude score decreased nearly ten points (Table 4).

Conclusions

The results of this study suggest several conclusions. First, neither the mean achievement scores nor the mean gain score for the Tutor/5 group differed from the mean achievement scores or mean gain scores for Study Alone/5 and Control/5, suggesting improvement in reading achievement due to tutoring did not occur. Furthermore, the lack of improvement in achievement for the low-achieving subgroup of the Tutor/5 group implies a reconsideration of the notion that providing low-achievers with an experience teaching will promote improvement in their own abilities.

Thirdly, while the post-tutoring mean achievement scores for the Tutee/3 group did not differ from the post-tutoring mean achievement scores for the Study Alone/3 or Control/3 groups, the Tutee/3 subgroups exhibited a difference which favored slightly the high-achieving tutees.

Attitude scores for the fifth grade groups suggests an overall in-

crease in attitude due to involvement in the tutoring project. Low-achieving tutors showed gains in attitude scores while the high-achieving tutors' mean attitude score decreased slightly.

Among the third graders, attitude scores were most markedly different. Tutees, as a whole, evidenced a decrease in attitude. Of particular interest, however, is the attitude change difference between the high-achieving tutees and the low-achieving tutees. Low-achieving tutees were apparently the most affected by the tutoring project. No improvement in achievement coupled with a substantial decrease in attitude gives rise to this conclusion.

The apparently high impact of tutoring on the low-achieving tutees may be related to two factors. The design of the study paired low-achieving fifth graders with low-achieving third graders and, although the experimenters monitored each tutor's work on a daily basis, the time during which the tutor-tutee pairs worked together was not intimately supervised. Consequently, low-achieving tutors, although trained and monitored, may have simply not been effective tutors. We, however, prefer a different explanation.

Typical classroom procedures, especially in the primary grades, are aimed at mastering reading skills in a fashion which often provides additional work for the low-achievers. Special needs are often provided for beginning about third grade and children are quite aware of this procedure. Being tutored may have thus been perceived by the low-achieving tutees as indicative of their "not getting it" through regular instruction.

The increase in attitude evidenced by the high-ahieving tutees is

supportive of this point of view. High-achievers often work independently and, since these children rarely present "problems" to teachers, many times they are left to work on their own. Involvement in this special instructional procedure may have been considered by the high-achievers not as a result of failure, but rather as a reward for achievement or at any rate an enrichment experience

Further study of cross-age tutoring using direct measures of attitude as employed in the present study should focus upon the effects of tutoring on the tutees as well as the tutors in order to substantiate or refute the findings presented here. However, it seems clear that a somewhat ignored area--tutee attitude--must be considered in the planning and execution of any cross-age tutoring. Furthermore, the entire milieu of school is a factor which requires examination vis-a-vis special programs such as tutoring. Cross-age tutoring may be viewed as one way to plan and carry out instruction, but sound pedagogy includes multiple organizational and instructional procedures to promote positive and improving attitudes toward learning and toward reading.

TABLE 1

Cloze Test Mean Scores, Grade 5

		Mean Pre-Test	Mean Post-Test	Mean Gain
Tutors/5	N=14	8.00	9.00	+1.00
High-Achieving Tutors/5	N=4	13.25	13.25	±0.00
Low-Achieving Tutors/5	N=4	5.00	4.50	-0.50
Study Alone/5	N=14	7.00	9.00	+2.00
Control/5	N=28	7.00	9.00	+2.00

Total possible points = 25.

TABLE 2

Cloze Test Mean Scores, Grade 3

		Mean Pre-Test	Mean Post-Test	Mean Gain
Tutee/3	N=14	8.00	9.00	+1.00
High/Achieving Tutees/3	N=4	11.50	13.25	+1.75
Low/Achieving Tutees/3	N=4	4.75	4.25	-0.50
Study Alone/3	N=11	8.00	8.00	±0.00
Control/3	N=26	8.00	9.00	+1.00

Total possible points = 21.

TABLE 3

Attitude Inventory Mean Scores, Grade 5

		Mean Pre-Test	Mean Post-Test	Mean Gain
Tutor/5	N=14	77.00	81.00	+4.00
High-Achieving Tutors/5	N=4	83.75	82.25	-1.50
Low-Achieving Tutors/5	N=4	81.00	84.00	+3.00
Study Alone/5	N=14	80.00	77.00	-3.00
Control/5	N=28	79.00	81.00	+2.00

Total possible = 100 points

TABLE 4

Attitude Inventory Mean Scores, Grade 3

		Mean Pre-Test	Mean Post-Test	Mean Gain
Tutee/3	N=14	80.00	76.00	-4.00
High-Achieving Tutees/3	N=4	79.00	87.50	+8.50
Low-Achieving Tutees/3	N=4	74.00	64.25	-9.75
Study Alone/3	N=11	73.00	75.00	+2.00
Control/3	N=26	74.00	73.00	-1.00

Total possible = 100 points

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